

ACCURACY IN MANUFACTURE ADDS TO MOTOR

Cadillac Engineers Insist on Uniform Dimensions for Entire Output.

A sheet of ordinary newspaper is three one-thousandths of an inch in thickness. In the building of a Cadillac motor car there are 800 dimensions which are not permitted to vary more than one-sixth of the thickness of an ordinary sheet of newspaper.

This seems almost beyond the comprehension of the average person, but the mechanical engineer will appreciate that it is this elaborate system of exact measurements that results in a quality motor car.

Cadillac manufacturing methods have always been the source of the greatest interest to the mechanically inclined. Since taking over the new Cadillac factory a year ago the Cadillac Company has developed the system of construction to an even greater degree of perfection. Visitors to the Cadillac plant are always interested in the gauge room and the thousands of precision instruments used. To maintain the standard of accuracy the Cadillac plant has 14,000 instruments in constant use.

The accuracy of these precision instruments is being constantly tested, the piston-pin gauges, for example, being checked twice every day they are used. The ultimate measure of accuracy is the Johansson gauge, known as the last word in mechanical measurements. The assembling and adjusting of Cadillac engines is also of much interest to factory visitors. One man, an expert, is made responsible for

the assembling of each Cadillac engine. The parts and sub-assemblies are brought to him as a complete set, conveniently arranged on a movable rack designed for that purpose. By this practice each engine is individually built and the assembler has a powerful incentive to maintain a high standard of excellence.

LOW PRICED U. S. AUTO POPULAR WITH BELGIUM

Home Market Is Unable to Supply Demand, So Americans Profit.

An analysis of the passenger-car situation in Belgium shows that the Belgian motor car industry has not been able to supply the home demand since the armistice, and that American cars in the Belgian market satisfy a need as to price that is not filled by the local producers. The quality of American cars, especially in chassis and driving units, is generally recognized.

The total number of passenger cars and chassis imported into Belgium since the armistice, with the share of the United States in that total, is shown in the following table:

Year	Total From U. S.	Percent of Total
1919	3,908	42
1920	4,468	53
1921	4,815	18
Total	13,191	37

At present all Belgium factories combined and working at full capacity cannot turn out more than 5,000 cars a year; before 1921 their output was greatly restricted, so that the 1921 production rate could hardly have been sustained. It is thus obvious that during these years, even if the Belgian manufacturers had been able to turn out the car most desired at a popular price, their mere shortage of output would have compelled importation of cars from other countries to meet the local demand.

There are at present about 5,100 American cars in Belgium, 4,810 of which are of well-known makes. Practically all have been imported since the armistice. The excess over the official import figure of 4,835 given above is accounted for mainly by purchases from army stocks. The retail prices of the most popular American standard stock touring car, all charges paid, vary from \$9,800 to 15,500 francs for the low-priced cars (comprising by far the majority), two makes selling below 14,000 francs, 21,000 to 35,000 francs for medium-priced cars (the most popular makes selling below 30,000 francs), and 51,000 francs for a well-known high-priced car.

Detailed figures show that Belgian buyers give preference to cars selling as much under 20,000 francs as possible. Good sales were recorded, however, for well-handled medium-priced, and even relatively high-priced machines that enjoyed good reputes in the American army. The fact that sales of all American cars slowed down with the rising dollar exchange indicates that on the whole the price was the initial argument in their favor.

Comes to Bad End.

A discarded automobile was discovered recently on a farm near Williamstown, Conn., converted into a still and producing liquor. The gas tank, radiator, gasoline feed pipe and hood of the car composed the make-up of the "hooch" producer.

Mostly Motor Traffic.

Traffic counts by the United States Bureau of Public Roads show that 77.3 per cent of the vehicles on the California highways are motor propelled. Motor trucks constitute 12.48 per cent of the total traffic.

E. J. QUINN SHOWS NEW WESCOTT. A CAR OF DISTINCTIVE LINES



DEVELOPMENT OF MOTORS NOW AT HIGHEST PEAK

Col. Vincent Thinks Further Advances Will Be in Way of Simplification.

"Along this season of the year when the annual motor shows lend timely emphasis in motor car discussions, there springs up the old, but ever-interesting query, 'What changes, if any, will the future bring forth in design and construction?' Revolutionary air cooled motors, turbines, alloy steels, new fuels, body lines and innumerable other items of varying importance, all join hands at this time to crack the whip of engineering opinion over the heads of the motor-owning public," says Colonel J. G. Vincent, vice-president of engineering for the Packard Motor Car Company.

"And naturally enough, the public enjoys the procedure sufficiently to become a partner to the discussion whenever and wherever the opportunity exists. Apparently, in the make-up of every human, there is just enough curiosity to impel such action."

"Every motor car owner, at some time or other, has wondered what the creations of five or ten years hence would look like. Glancing back over the startling changes that have been made in the last ten years he has wondered whether or not it would be possible for the coming decade to show similar progress."

"My personal opinion is that it will not. I am of the belief that most of the development work in the automobile field during the coming decade will be confined largely to a simplification and standardization of construction, with a view toward securing greater endurance and freedom from repairs and adjustments."

Motor Car a Utility.

"The motor car each year is becoming a greater instrument of utility—a better and more generally recognized servant to public needs, and by reason of this fact, its ability to do its work with a minimum of expense is continually becoming more and more important. There was a time when every owner expected a certain amount of difficulty in operating his car. He discounted this difficulty when he made his purchase and he displayed no surprise when it materialized."

"That time, however, is gone. Today the average motor car owner objects strenuously if called upon to humor or fuss with his car, and is the subject of much disappointment if for any reason his car is not at his call whenever he needs it. This change in the public's point of view and its unwillingness to tolerate anything but thoroughly justifiable repairs and adjustments will probably be the greatest single influence upon motor car design for the coming years."

"Undoubtedly the most hazardous

undertaking in prophesying the trend of motor car design is that which involves the motor proper. If the subject had been up for discussion last summer when the shortage in gasoline was so acute, the necessity for stringent economy would probably have strongly influenced the discussion. Now that the crisis has passed again (and the word 'again' is used advisedly), the cry for revolutionary fuel economy has subsided. Whether or not the present type of internal combustion engine will eventually be rendered obsolete by a scarcity of fuel, is a question that no one can answer with any material assurance at this time.

"Eventually this demand for greater fuel economy may develop, as it has in England and other European countries, care of less weight and horsepower. Already there is a movement in this direction, but until our public highways have been materially improved I do not believe it will be a dominant factor. It is all very well for England, with her well-developed roadbeds, to employ moderately light cars with very moderate power ratings, but the average American highway does not as yet provide similar opportunities in America."

"There is one factor in motor car design which, to the best of our opinion, is fairly well established—that is, the factor of general appearance. I doubt very much if the next ten years will witness any radical change in this element. In the early days of the industry body designing was a secondary consideration. Engineering was the big job. The car, first of all, had to be made a mechanical success; consequently the matter of body designing, like the machining of the crank shaft, was governed by cold, unfeeling mechanical considerations and very little art."

"With the coming of the stream line design, motor car exteriors have improved rapidly. Unbroken lines and pleasing proportions are today factors of vital importance. The influence of art, as the observer well can see for himself, is one of the foremost elements in motor car design, and unless my sense of the artistic is wholly inadequate it already has performed its duty so well that there is little more for it to do. In fact, the prevailing tendency among manufacturers to institute only minor changes from year to year seems to indicate that the physical appearance of the motor car is quite well established."

PORTRAIT OF HARDING IS PRIVATELY EXHIBITED

President Harding's portrait by Cox—Walter L., not James M.—is on private exhibition to artists and friends of the President. The painter who will continue to exhibit the portrait at his studio throughout the spring, has been complimented on the likeness by the President and Mrs. Harding, and by those who have attended the private showing.

The President sat for Mr. Cox in the north guest room of the White House, where several other Chief Executives have had their portraits made. The painting, it is expected, will later be placed in the Corcoran Gallery of Art for public view.

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AUTO ITEMS

Maryland Has 90 Bus Lines.
Ninety bus lines in Maryland have an average of three vehicles per line, carrying an average of sixteen passengers per vehicle, that operate over an average distance of nineteen miles per one-way trip.

Railway Lines Operate Buses.
There are thirty-six electric traction companies now operating buses. These are located in various sections of the United States, including Boston, Mass.; Bakersfield, Cal.; Minneapolis, Minn., and Fort Worth, Tex.

Motors Spread Education.
Motor cars and motor trucks are being used by many colleges for extension courses and for general purposes. Amherst, Dartmouth, Williams, Massachusetts Institute of Technology, Carnegie Institute of Technology, University of Michigan, Cornell, Harvard, Vassar, Wellesley, Columbia, and Johns Hopkins

are among the institutions having motor transportation equipment.

St. Louis Traffic Fatalities.
Reports in the National Safety News show that automobile fatalities in St. Louis dropped from 192 in 1920 to 97 in 1921. Education in schools is one of the biggest factors in bringing about this improvement. St. Louis safety council also decided upon a safe drivers' school, organized thirty-five leaders of boys to junior safety cadets, sent an individual letter to every automobile driver involved in accident, and engaged in many other similar activities.

Building Good Roads.

According to Government figures, a total of 28,000 miles of good roads were built in the United States last year, or a distance equal to ten times the width of the country. Half of this mileage has been built by the State governments in conjunction with Federal aid. The remaining 14,000 miles were constructed independent of Federal assistance.

If the grease does not penetrate through the spring bushings, a heated wire thrust into the hardened grease usually removes the obstacle.

MOTOR CAR MARKET IN WESTERN SWEDEN

Imports of motor cars through the Göteborg custom house during 1921 showed a decrease of over 60 per cent, compared with imports for the previous year, the total for 1920 being 2,535, as against 782 for 1921. Of the latter, 612 were of American origin, 45 English and 135 were German, French and Italian. One-third of the American cars were the product of a single manufacturer. No increase in imports for 1922 is anticipated.

Can You Qualify?

A motor car not only requires a driver who is a skilled mechanic, but also a driver who is skillful in manipulating a car on the road. Besides a general knowledge of his machine, a knowledge of the rules, customs, and courtesies of the road and the habits of traffic, also the possession of the qualities of alertness, foresight and a consideration for others are important.

The oxygen method should never be used for the removal of carbon deposits in engines with aluminum pistons. Because of the extreme heat generated, this process is likely to injure the pistons.

WESTCOTT

The Car with a Longer Life

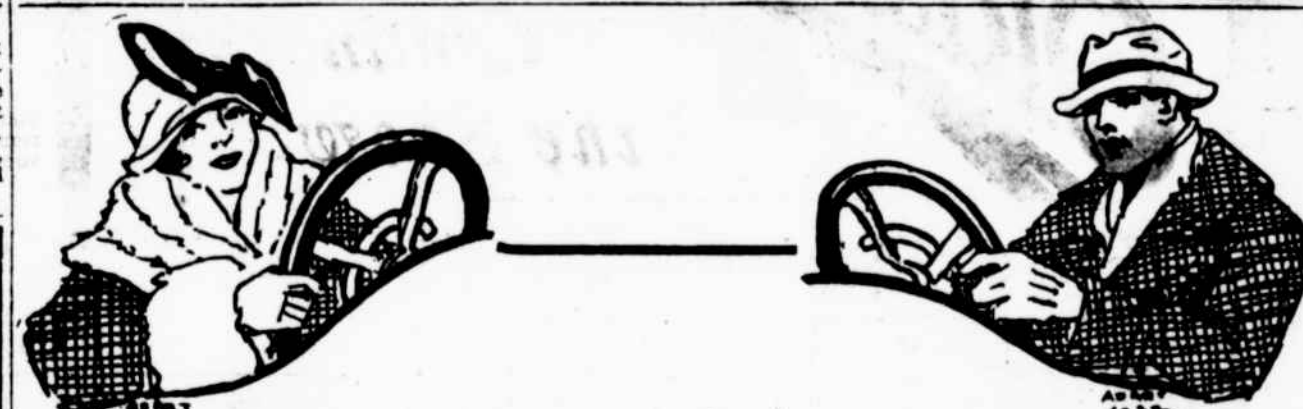
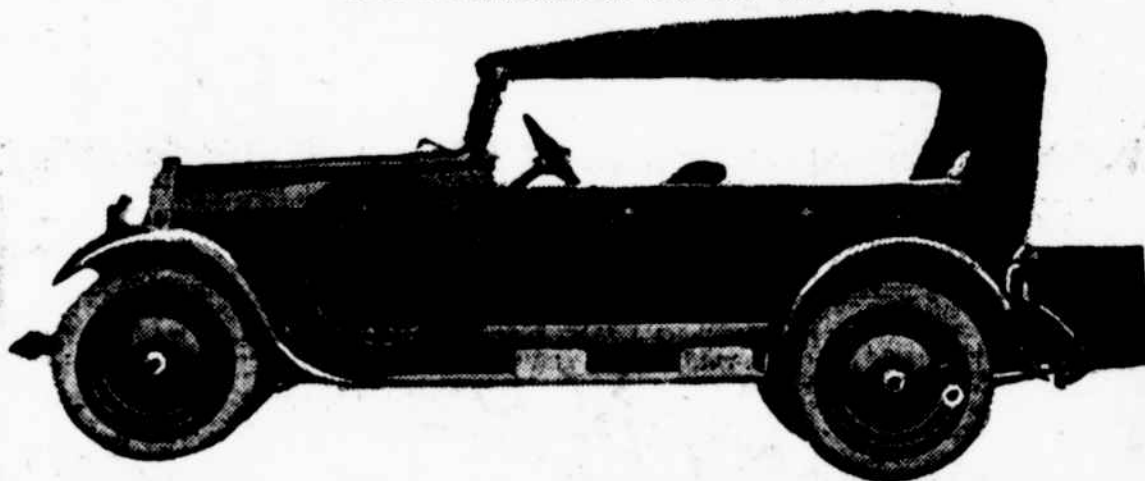
Immediately After the Closing of the Auto Show

The Westcott Models, which have attracted great attention, will be on display in our sales rooms.

We wish to thank our friends and the public in general for the interest taken in our exhibit of the new Westcott Models at the Automobile Show.

E. J. QUINN MOTOR SALES CO.

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Every Motorist Wants Power

An automobile without power might as well be without wheels. But there are many varieties of power. All of them based upon the fuel you use.

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—has that irresistible power that means everything to the motorist. It is the "Gas With the GO," and after a trial you will find that it causes less carbon deposit and means less stops for more gas, all of which means a whole lot.

Get acquainted with the "Lightning Motor Fuel Filling Station" in your neighborhood and you'll never be without a tank full of the "Gas With the GO."

LIGHTNING takes you where you want to go—when you are ready to go—and brings you back.

It keeps your motor clean, free from knocks and full of real power—ready for any task.

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Every Studebaker Sells Another!

It's a case of the "survival of the fittest" in these days of keen competition in the automobile industry and intelligent discrimination on the part of the automobile buyer. Only those concerns will survive who merchandise their commodity on the old-fashioned American business principles. That these principles are adhered to by this company is manifest by our ever-increasing volume of business.

The unusually large number of sales of new Studebakers during the Automobile Show has resulted in a fine assortment of cars being traded in. A visit to our Used Car Department will show you why we are doing the largest used car business in Washington.

Every Day Is Bargain Day in Our Used Car Salesroom

Lexington "Minute Man Six" Touring; 5-passenger; new paint and good tires..... \$625
Buick Roadster, 1920. Just a real buy for a quick purchaser..... \$650
Ford Touring, 1920; looks good and runs better..... \$275
Reo Touring; here's a car that took a long time for the owner to let it go. It will please you..... \$390
Studebaker, 4-pass. Special Roadster; run only 6,000 miles; equipped with best cord tires and many extras..... \$1,200

Westcott, 1919. "The car with a longer life." Here's another waiting for a wise purchaser..... \$750
Oakland Touring, 1919; run only 14,000 miles..... \$425
Buick 1922 Touring; only run 8,000 miles and bought in November. Will give same demonstration as new car..... \$975
Scripps-Booth Touring, 1920. New tires and paint..... \$525
Studebaker, 1919, 7-pass. touring; a car with a completely rebuilt motor; condition perfect..... \$950

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